GRAIN

FEBRUARY 1941

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June 9th - 10th - 11th

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SUPERINTENDENTS' SOCIETY

SuCcOtAsH

DOMINION GOVERNMENT TO HELP GRAIN MOVEMENT

THE Dominion Government has offered to pay half the regular freight rates for 8,000,000 bushels of feed grain to be transferred from the lakehead to the eastern provinces if the government of the province of destination pays the other half and handle the shipments for distribution as livestock feed exclusively.

WELLAND TONNAGE RECORD

A RECORD of 12,190,597 tons was reached in 1940 traffic on the Welland canal. This is 280,543 tons over the previous high record in 1938.

PROSPECTUS FOR PACIFIC NORTHWEST GOOD

PLENTY or moisture and the fine condition of the soil preclude a good crop for the Pacific Northwest this year. Winter wheat is reported to be in fine condition.

HUGE SURPLUS OF CORN IN ARGENTINA

EXPORTABLE corn surplus in the Argentine may reach 500,000,000 bushels by April 1, 1941. A 1940-41 crop of 355,000 bushels is very probable, while 310,000,000 bushels seems assured even with only average yield.

WHEAT IS PRETTY OLD

INSCRIPTIONS show that the Egyptians cultivated wheat in 3300 B. C. and the Chinese in 2700 B. C. Thus it seems that wheat was with man when he first began to settle down and probably was one of his reasons for doing so. Truly it is man's most valuable and universal food.

WHEAT GROUND

ONE thousand fifty-four; 1,050 and 1,049 mills ground 43,024,778; 37,769,598 and 36,847,950 bushels of wheat respectively for October, November and December during the crop year ending June 30, 1940, as compared to 1,079; 1,076 and 1,074 grinding 45,319,131; 39,706,888 and 37,077,751 bushels respectively for October, November and December in the current crop year.

Seven hundred sixty-two milling concerns representing 922 mills reported stocks of 6,330,853 bushels of wheat in public terminal elevators and 3,166,556 in private terminal elevators not attached to mills as of December 31, 1940.

CCC CORN FOR SALE

COMMODITY CREDIT CORPORATION stored corn will be offered for sale in the Chicago market at prevailing market prices, but not for less than 69 cents per bushel, f. o. b., point of storage for No. 2 yellow corn. Corn in other markets will sell for a price set in relationship to Chicago market values, but not less than 65 cents per bushel for No. 2 yellow corn, plus transit values of freight paid.

Commodity Credit Corporation is holding 13,215,611 bushels of wheat in storage to cover premiums paid by growers on insurance of the 1941 crop.

Commodity Credit Corporation announced 64,288 loans were made on 61,021,870 bushels of corn at $37,173,484.11 up to February 8, 1941.

SUBSIDY GRANTED ON SHIPMENTS TO MEXICO

WHEAT export subsidies have been extended to include shipments to Mexico. Approximately two to three million bushels will be involved in the transaction.

EROSION IS EXPENSIVE

SOIL Conservation Service says that more than half the country's land has already been damaged by soil erosion and that it is costing the government more than $3,800,000,000 a year. No, we didn't make a mistake, that figure is correct!

When the grain trade vote gets bigger just think what the government will do for us!

CIVIL SERVICE EXAMS

IN cooperation with the U. S. Civil Service Commission, we publish herewith announcement of examination under the title of "Inspector, Subsistence Supplies." This involves inspectional work in connection with food supplies, keeping records of same and handling correspondence incidental to work.

Actual or laboratory experience is required. For principal, senior, or full-grade inspector, applicants must be 25 years old; for assistant or junior, 21. Maximum age is 55.

Further information and application blanks may be obtained from the Secretary of the Board of U. S. Civil Service Examiners at any first or second class post office or from the U. S. Civil Service Commission, Washington, D. C.

"VITAMINS, HOUSEWIVES, VITAMINS"

PAUL V. McNUTT, Social Security Administrator, will inaugurate an educational campaign to teach housewives how to feed their families. Let's hope bread gets the Number One spot it deserves.

FARMERS MAKE HALF A BILLION MORE THAN IN '39

A GRAND total, including government payments, was earned by U. S. farmers of $9,094,000,000. This is $576,000,000 more than in 1939. Government payments meanwhile had decreased by $41,000,000 in the same period. A still greater increase, actually estimated at $600,000,000 is predicted for 1941 by the U. S. D. A.

PEORIA RESEARCH LABORATORY

SYLVESTER T. SCHICKTANZ will head the Agricultural Motor Fuels Division of the Northern Regional Laboratory for Research on Industrial Utilization of Farm Products, at Peoria, Ill. Investigation will deal with fermented materials which may possibly be used as fuels in internal combustion engines and also other liquid, solid and gaseous materials derived from farm crops which offer possibilities as fuel.

PLASTIC CARS AGAIN

A PLASTIC suitable for building automobile bodies has been evolved by Ford Company chemists. These bodies will be lighter and better insulated than the steel ones, but will require complete rebuilding of the present automobiles. However, in a few years they will be common.

Ought to be some elevator ideas evolve out of this, too.

PERENNIAL WHEAT FROM RUSSIA?

ONE of the most desirable and most distant goals of agricultural scientists has long been the development of a perennial wheat. Such a plant would do away with annual plowing and seeding and the danger of soil erosion, for the fields would never be empty, but never until just recently has definite progress been reported on this problem. Now Soviet scientists are reputedly developing several hardy hybrids of various wheats crossed with a sturdy, native perennial grass. The new plants show good evidence of being the sought after type. However, they must still be developed into good wheat plants.

Editorial

MAYBE we have the wrong slant on things, but there's one phrase going around which rasps our temper no end. It goes something like this: "When the war or crisis is over, we're going to be producing too much and prices will fall all over us, so let's not expand—rather let's rush and squeeze production so it will be easy to cut when the 'boom' is over."

If only somebody would explain logically to us why 100,000,000 tons of steel production a year is no good! Why do we have to cut down acreage and plow under crops? What's the harm in having a 2,000 commercial plane per month peace time production? We like the idea and see no reason why anybody who wants to see his country prosperous and busy shouldn't like it, too.

No market, you say? Well, where's this rugged individualism, free enterprise, and that "ingenuity" we all boast of and are trying so hard to defend? No wonder a good many people think we need Socialism or Communism or Fascism—those are governments for people too stupid, too indolent, too cowardly and weak to get what they want for themselves.

What has happened to men like that old publisher who asked his editors for more news in the paper and after they had humbly replied that there was no news, bellowed at them: "Make it!" One of the editors started a major fire by nervously knocking out his pipe in a wastebasket, another wrote a story about the yellow peril from some incidents he remembered from a book on jiu-jitsu, and still another hired a stunt man to dive off a bridge.

Perhaps the impression we have that mass production lowered prices, increased profits and opened new markets, is false, BUT THE AUTOMOBILE INDUSTRY DOESN'T THINK SO.

Economists are so busy explaining the vicious circle that we are in that they haven't had time to explain how we could get into a better state of affairs.

Some 40 per cent of our people seem to be without all the basic necessities of life. That's quite a market, isn't it? Look farther and in time you can visualize a billion and a half Asiatics and Africans and Polynesians as a potential market, but never mind them just now—fifty millions in North America and fifty millions in South America present enough of a market.

It seems that with the opportunity this market presents we could easily get into a "benevolent circle." If production is increased, prices per unit will be lowered. At the same time items are placed in the price range of the heretofore underprivileged, their means will be raised because of increased employment opportunities through the new production. It's high time that such a cycle be started upon instead of pampering each other in mutual misery.

Of course, a little risk is involved and some work—maybe—but all that requires is energy and courageous foresight and, of course, we may not have that any more.

You pay for every lesson in the school of experience, and pay most when you profit least.

After all, the thing that counts is not what a man says but what he does. Franklin D. Roosevelt.

He who has a trade has an estate and he who has a calling has an office of honor and profit—Franklin.

The man who does the little things well is better suited to do the big things better. Martin Vanbee.

Everyone likes authority, some people a great deal of it. But there is one thing the American cares for more, and that is to be left free from arbitrary interference in his affairs. A. Lawrence Lowell.

Your work speaks more convincingly than your tongue. B. C. Forbes.

Orderly system in our work reduces waste effort and lost motion.

Friendship is like a temple that takes a long time to build and can be destroyed in a few moments. Jane Lloyd Jones.

I do not prize the word "cheap." It is not a word of hope. It is not a word of comfort. It is not a word of inspiration. It is the badge of poverty. It is the sign of distress. Cheap merchandise means cheap men. And cheap men mean a cheap country. William McKinley.

GRAIN, Board of Trade, 141 W. Jackson Boulevard, Chicago, Ill. Telephone Wabash 3111. A forum for operative and mechanical problems in terminal and sub-terminal grain handling and processing plants. Published monthly on the tenth. DEAN M. CLARK, Publisher; KEN VIX, Editor; C. GIBSON FRANKS, Staff Artist.

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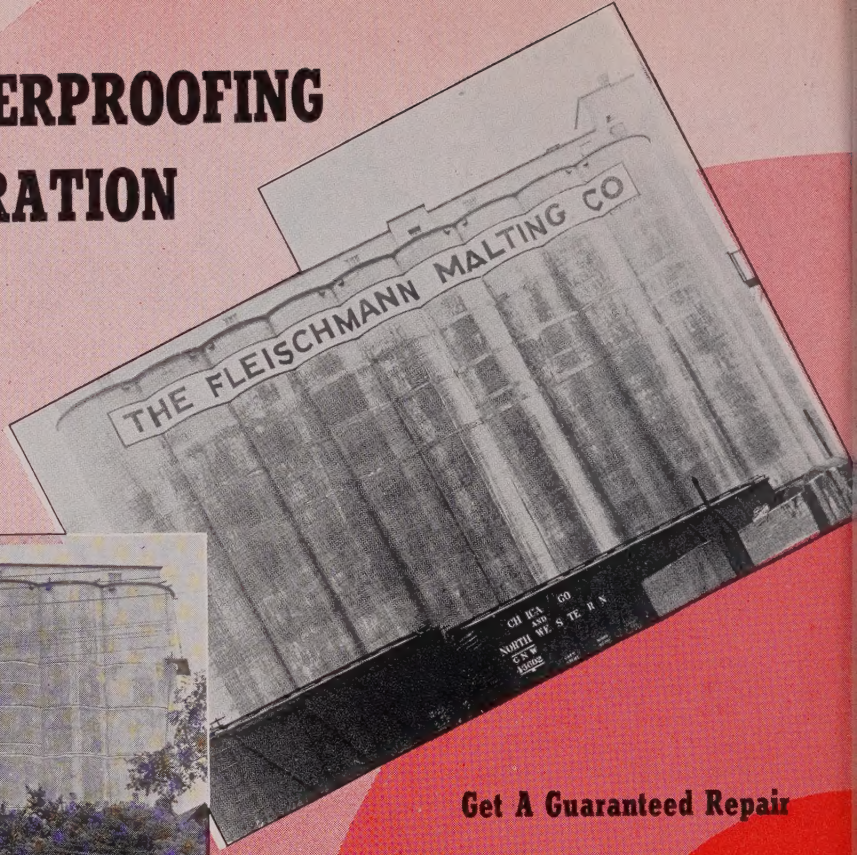

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ENGINEERING and the Superintendent

By M. DWIGHT BELL
Consulting Engineer, Minneapolis, Minn.

ENGINEERING can be defined as the application of the principles and properties of matter to serve the needs of mankind. The special field of engineering which will be considered in this paper is that in which it serves the purpose of the grain elevator superintendent.

The service which engineering renders will be discussed, rather than the channels through which it may be obtained. It may come through the elevator superintendent himself. It may be the joint effort of several men in his organization. It may be rendered by engineers of equipment manufacturers, power companies, construction contractors, or by others offering special services as in safety or insurance, or by consulting engineers.

Many branches of engineering touch the elevator superintendent, in the general fields of civil, mechanical, electrical, chemical, and more recently, "human engineering." These branches will be considered through their application to particular problems, rather than by the groups represented above.

Engineering problems have developed in grain handling from the time when it first grew out of the efforts of a single individual, trying to survive. When Joseph cornered the visible supply of grain in Egypt, several thousand years ago, stored that grain and delivered it on contract, he had engineering problems of the first order, very similar to those we have today.

The fund of information that is available today, however, is very different from what elevator operators had at their hand only a few years ago. Much of this information, now available to everyone, has been acquired within the active experience of the members of the Superintendents Society going back not over thirty-five years.

The gathering of this information has come with the development of modern, large scale handling operations, with the growth of scientific information elsewhere, and from the accumulation of experience. The investigations which have produced this information have been carried on with the assistance of elevator superintendents in many cases, and they can look upon the present state of the business of constructing and operating grain elevators with personal satisfaction which will lead them to take part in further studies along the lines of improved methods.

"Failure" Is Useful

Failures also teach us their lessons. We learn from doing. Without going into specific details, all will recall instances where the information that was available at the time was not sufficient to prevent some costly mistakes. Credit should be given those pioneers who had the courage and resourcefulness to go ahead, with limited information, to experiment and to make progress, in spite of difficulties which are different from those we face today.

The engineering method of attacking a problem is one of the biggest contributions which engineering has made to present-day thinking. This method consists of first stating the problem clearly; then separating it into its essential elements; then finding all the facts that bear on the problem; applying the principles governing the operation of the materials involved; then reaching a decision or a conclusion; checking this conclusion by tests in advance if possible; doing the job; then checking the results to see if the problem has been solved satisfactorily, and if the engineering was correct.

Application of this method is so general today, in every form of activity, that it is recognized as simply the intelligent way of thinking things through. But it is a definite development, which is the result of the growth of engineering knowledge and practice. The field for application is unlimited, and the wider application in grain elevator operation will be of immediate advantage to grain elevator superintendents, as will be suggested by a hasty examination of the many ways in which problems have been solved by engineering in recent years.

Divided Interests Create Problems

The several parties involved in elevator operation should be mentioned in this study, as a means of promoting a better understanding of the separate fields, in which engineering is concerned.

The owner of the property may be the operating company, or a separate company such as a railroad. In such case, the interest of the owner is in the financial return from the lease, or from the business of transportation which will be affected by the operations. The lease will divide the responsibility for new construction, for maintenance and repairs, operating expense, as may be determined in each case. This division of interest enters into many problems, and must be satisfactorily met, and the different individuals satisfied, in any planning.

The operating management is primarily engaged in merchandising grain. It may be for their own consumption, as in milling operations, or for others, as in public houses. Their special interest is in the grain, in market conditions, crops, prices, cleaning, handling, grading, ability to receive and to ship to the best advantage, and finally, and always, to show in monthly and annual figures, a profit.

The elevator superintendent is the representative and the agent of the management in securing the results above desired. The final measure of his efficiency is shown in the profit and loss column. To meet the requirements of this position, he must be a business man, a grain man, a leader of men, an accountant, and an engineer. It is a large order, but one that is being successfully met by progressive superintendents every day.

Large scale operations have made necessary the study of costs and comparisons between costs of different houses, under different conditions as to location, labor, equipment, power, general design, type of grain being handled, volume of grain received, and everything that has to do with safety and cost of operations.

Analysis of these costs, either in the occasional manner of earlier days, or monthly and annually today, has had an important bearing on the engineering features involved. These costs are part of the facts required on which to base conclusions. They promote progress by showing the value of improved equipment and methods. The superintendent who studies his costs closely and who compares his costs in detail with the costs elsewhere, is the one who will make the most money for his company. The benefits to be had from such study will justify the engineering analysis required.

Successful engineering means making a profit on the undertaking. Unless this is the case, the problem has been only partly solved. The needs have been only partly met. Profit is the measuring stick in elevator operations, in figures directly, or in production of a superior product or hu-

man values. Engineering is seeking this profit, which can be shown in the results by the superintendent.

Cooperation Means Profit

The design of a new elevator must be worked out through cooperation with the owner or operating management, the superintendent, and the engineer. With full cooperation many savings can be obtained. Without cooperation there is bound to be difficulty. The superintendent is a key man in this design, and he must be given more attention than he has been sometimes in the past.

The difficulty is one which the superintendent himself can do much to remove. There is usually no thought of overlooking him when the decision is made to build an elevator, or to make additions. The decision to go ahead is necessarily one for the management, to meet business needs. If this demand comes up suddenly, through crop changes, shifting of business, or some sudden disaster to other property, time may be lacking to figure out what is wanted in the refinements which make up the detail of elevator operating.

The need for this study by the superintendent and the value to his company, cannot be over-emphasized. This study can be made only in the spare time of the superintendent, when his mind is free from the day's work and he is able to think ahead and review his experience. He must dream about what he would do if he ever gets his chance, putting those ideas down on paper in one way or another. He will get his chance some day. In fact, the man who is studying, will create his own chance, by showing figures that prove his ideas to be sound, by discussing them with an open mind when he is invited to do so, then going back and doing it over again if he gets turned down temporarily.

Things to Contemplate

Essentials of a new design take into account the requirements which have been listed by the superintendent or by the management. The location is important, with study of trackage facilities, other industries near by, storage of loaded and empty cars, and foundation conditions especially.

Foundation conditions are very important on account of the heavy loads, and the alternate loading and unloading. Ground water levels are of next importance. Special conditions are involved if the location is on a waterway, for handling vessels on one side and rail cars on the other. Bad foundation conditions invite heavy expenditures. More is known today about successfully meeting such problems through lessons learned by costly failures in the past.

The nature of the business to be handled, the capacity, type of grain, varieties, loading and shipping facilities desired, nature of the crop movement, need for special equipment for cleaning and conditioning the grain, local regulations for weighing, ordinances applying to construction and safety, and many other items which will occur to the superintendent as his requirements, will be part of the engineering information used in making the design. The superintendent knows the importance of all these elements, for they enter into his daily life. They are the tools with which he works. If the engineer can be made to see them as they appear to the operating man, it is certain that better and more economical houses will result.

Imagination is required in this work. It requires the ability to sit down quietly and to think through the operating problems which have arisen in the past. The superintendent will think of the many changes he has had to make to take care of special crops, and to project this vision forward into the new operations he thinks he is likely to have in the future.

Heed the Super, He Knows!

Many illustrations could be given of unfortunate failures to look ahead, to use the imagination of the operating man. In one elevator, built in recent years, the superintendent showed me an annex which had been built to take care of shipments going down the lakes. The house was leased from a railroad, by a company operating other terminals as well as this one. The superintendent had been instructed to attend the letting of the contract for this annex by the railroad. His objections as to the design were overruled and the contract went to the low bidder. He told me that he could not fill these tanks without interfering with receiving and shipping, and that as a result these additional tanks were used as little as possible and that the bulk of the shipping going down the lakes was handled through another house, in a different city. The railroad lost the anticipated extra business as a result of engineering neglect of the superintendent's ideas. Many other cases have come up where failure to think ahead caused loss of time and money and add many gray hairs to the head of the conscientious superintendent who struggles to overcome difficulties.

Materials available for construction today have increased the opportunities for satisfactory construction and reduction of operating costs. Wood may be used in small country elevators, where convenience and lower cost offsets the increased fire hazards. The use of wood in many older houses gives operating problems today. Steel was used during a short period when it was cheap. Tile came in for a few years. Reinforced concrete came about thirty years ago, with its facility of design, quick construction, relative resistance to fire, lower maintenance and economy. Progress is being made every day, and the future will undoubtedly see the use of still other materials.

New Engineering Developments

Power is a field in which progress has been made. Steam engines are still in satisfactory operation, especially where steam is required for drying or other process work. Electric power has many advantages in transmission, whether purchased or generated locally. The oil engine is definitely coming into the field where the number of hours of operation per year will justify the investment. Monthly analysis of power costs will show the chance for savings in method of operation, the type of coal to be burned, or the avoidance of costly "peaks" if on

purchased power. There are many applications of sound engineering in the power field which will occur to every superintendent, from the cost of oil and upkeep to the more abstract study of "power factor."

Electric power has brought engineering problems in the application and design of new types of alternating current motors such as the double-decked, squirrel-cage induction motors, and synchronous motors with their advantage in power factor, with proper starting torque to pick up the load of a stalled elevator leg. Control equipment has been developed, interlocking connections, and safety designs for preventing dust and fire hazards.

Signalling systems, communicating systems, fire alarms, safety devices, transmission equipment, gears, chains, clutches, back-stops, bearings, lubrication, the design of belting for power and conveying, dust collecting, explosion venting, all represent special developments in which much engineering work has been done in recent years.

Technocracy

Car unloading will be done by more and more machines. Your special committee appointed today is an excellent instance of the type of work that the Superintendents Society can foster, the development of special equipment to meet your needs. It is certain that with progress, this work of unloading will be done more economically, with smaller machines where there are few cars, and the dumper for those places where the receipts will justify the increased investment.

Weighing of grain with its many modern improvements is an instance of sound engineering. Special types of conveyors have been made available to handle the grain with less power, less damage, and lower cost of equipment.

Explosion prevention is a special field in which you are rightly interested. The causes of explosions will be better known and methods will be provided to eliminate most of this hazard. It is a field in which there is much difference of opinion, and owners are frequently at a loss to know how far they should authorize expenditures on the strength of some theory that is not fully proven in their minds. There is even some opposition from some of the older members of such a group as this one, who recall the days when the open lantern was used, apparently without result. Better understanding of the elements will promote progress. The owners are concerned for the safety of their men and for the property and the business that is involved. Any one who has had the experience of watching some one he has been working with, writhe on the floor and die in a few moments from the burns which result from an explosion, has had a lesson that is beyond all argument and which will stay with him.

New Horizons

Grain cleaning is another instance of the application of engineering to meet the needs of the grain trade. There may be nothing new under the sun, but there are better combinations being made, and better machines for taking out seeds and doing the grading that is required in the modern elevator.

Chemical engineering is concerned with the preparation of chemicals for industrial purposes. Grain will be used as sources of chemical materials. This will mean changes in methods of handling and delivery of the grain to the industry in the condition that it requires. A letter from a miller that I have about wheat that would not absorb water in tempering because it had been treated by an oil in fumigation, is an instance.

Fumigation for insect control is a field that will respond to better engineering, in which the superintendent is interested in lower cost, improved results and greater safety of application.

The new moisture tester is another application of information that has been acquired in other lines of effort,

to the needs of the grain handling trade, in providing the means for a quick determination of moisture under conditions which have been studied, then checked in operation. It is a good piece of engineering.

Psychology, Too!

"Human engineering" is the term that has been recently applied to the study of human relations. The study of human relations is not an exact science, but results will follow the application of this method of analysis. Large organizations find that there are advantages in meeting the human needs involved in trying to make many persons work together. The problem will respond to study, with benefits shown in the profit column. ,

Leadership is one of the qualities that notably characterize the efficient superintendent. Today, with more intelligence expressed by the type of men available, there is more need for understanding men, and why they like to work for certain types of foremen. When you get to know a man, the chances are that you will like him better. The new way will maintain proper discipline, but will draw out the best the men have in thinking and loyal cooperation.

Safety is a field in which much can be done if done intelligently. It does not mean a lot of safety bulletins. It means careful analysis of why accidents occur, with methods of operation that will reduce them and help to make money in operating better.

Employee Evaluation

Suggestion boxes are good if rightly handled. You may get many ideas that are not sound, but there will be some that will work. It gives a means of selecting those men who are thinking about the interest of the company, in a sound way, not just to curry favor with the boss.

Grain trade associations need some engineering work. It has a definite field—new ideas, to talk with other men in the same line of work, to measure up to them, and to advance in the understanding of their mutual problems.

Opposition is of two kinds, indifference and the point of view that some men have that they cannot learn anything from a convention, and that it is a party, all play and no work. The opposition can be overcome by proper effort on the part of its members. My suggestion is that owners and managers be not asked to pay all the expenses of attending such meetings, but a part. The member who wants to get something he values should be willing to put in his own cash for part, if given the time and a part of his expenses. It means engineering study to advance the interests of the Superintendents' Society and its members.

From an Old Friend "Down Under"

"I HOPE you and the others in Chicago will have the best for 1941," writes Mr. L. S. Harrison of Sydney, Australia, now manager of Government Grain Elevators. Mr. Harrison's greeting reached us too late for the Christmas issue and through a slip-up of our own missed the January number, but here it is, "With all good wishes for your happiness at Christmas and in the New Year." A beautiful original pencil drawing of Farm Cove, Sydney, is depicted on the card.

Searle Report on World Crops

HARVESTING in Argentina is going along well and that country's corn crop prospects are excellent. The 1940-41 wheat crop is estimated at well above the ten-year average although recently reduced 8% by extra heavy rains.

SPAIN, Portugal, and Finland are seeking wheat and other foodstuffs, and Spain already has a commercial agreement with Britain for Canadian wheat. 12,000,000 bushels of Argentine wheat are reported to be sought by Spain. She is importing wheat from the United States and shipping is already proceeding out of Baltimore.

THE Bulgarian wheat crop is 10,000,000 bushels lower than in 1939. Much damage has been done by floods throughout the Balkans and Turkey, further augmented by a cold wave spreading across the entire European crop areas.

RUSSIA, however, is offering grain to any country able to buy it, while wheat acreage is up 300,000 acres above last year in India—with good crop prospects. Beneficial rains have also been reported in Australia. The Manchurian soy bean crop is estimated at approximately 15,000,000 bushels over 1939.

IRELAND intends to increase domestic wheat acreage and Britain turns in the report that feedstuff supplies are below expectations.

OF THE total Canadian wheat crop graded from August to December, 1940, 91.6% graded No. 3 Northern or higher. 57% of this was No. 1 Northern or No. 1 Hard.

Total world wheat crop, not including The Soviets and China is moved upward by 90,000,000 bushels.—**From the Searle Grain Company, Ltd., Winnipeg.**

YEA A-D-M! YEA HALACK! OH, GLIDDEN?

THE Archer-Daniels-Midland boys knew what they were doing when they challenged The Glidden Company to a bowling match. Score? A-D-M 2753; Glidden, 2384. A 733 series of 236-210-287 was scored by Halack of A-D-M to decisively swing the victory. Several of the cynics at Glidden want to know where they can hire another like him. The last game (287) was a heart-breaker for Halack (and Glidden). He got ten strikes in a row before missing. That's bowling 'em over!

We'd really like to see all the outfits in Chicago and elsewhere get together and start a league. Those who have already played like the idea well. It's great sport, boys!

The A-D-M vs. Glidden match was held on February 16.

ELECTRICAL TREATISE AVAILABLE

"ELECTRICAL EQUIPMENT FOR THE GRAIN INDUSTRY" is the subject of a new deluxe book just released by Westinghouse Electric & Manufacturing Company for the grain industry. It is a 28-page publication attractively printed in two colors, covering the application of Westinghouse equipment for the grain industry from the country elevator to the finished product. Specific subjects covered are . . . "Handling and Storing the Grain," "Milling the Grain," "Processing the Grain," plus three valuable sections on (1) "How to Select the Right Motor, Control and Circuit Protective Equipment," (2) "Timely Hints on Preventive Maintenance," and (3) "Useful Data for the Maintenance Man."

You may get a copy mailed to you in a special damage-proof package by writing direct to Department "G," Westinghouse Electric & Manufacturing Company, 20 N. Wacker Drive, Chicago, Ill.

New Headquarters for Zeleny

THE Zeleny Thermometer Company, makers of bin thermometers for determining the temperature of grain in storage at each five foot level, and journal fire alarms, has moved to new headquarters at 9 South Clinton Street, Chicago.

Mr. S. LeVee is now president and owner of the company, successor to the late Mr. L. H. DesIsles, and Mr. S. C. Klaus continues in his capacity as vice-president.

GRAIN TANKERS—NEW STYLE

FRANK PETERSON of Baltimore tells of the new British proclivity of loading grain in oil tankers. It seems that this method of shipping provides for much faster loading—although there are difficulties. For instance, it took 28 hours to load 426,917 bushels. The ship had 27 compartments—each holding 16,000 bushels—served by one 5′ x 5′ hatch each. That isn't too much room and the span to be covered was quite large—the beam of the ship being 56 feet and the gallery 20 feet back from the dock edge. However, extension spouts were added and the offshore row was filled from the cat walk, nine feet above the deck. Good job! The ship's name? Maybe you're a Nazi!

Perhaps the coming type of ship is that like the "Dolomite 4" of the Dolomite Marine Corporation. It is 300 feet long and built to ocean specifications, beam of 43 feet, tonnage 5,500, Diesel-powered, electrically welded and lined with sheet nickel in the main bulkheads. This ship has carried cargoes of bulk grain, kerosene, gasoline, molasses, oil and other products. That's good, efficient shipping!

Hopper Telltale Signal Systems
FOR ACCURATE WEIGHING

By M. H. LADD, Chief Weighmaster
MILWAUKEE GRAIN & STOCK EXCHANGE

GRAIN Elevator Superintendents and Terminal Grain Weighmasters have much in common; an accurate record of the quantity of grain received into and shipped from a grain elevator depends entirely upon accurate weights. That goes without saying. And we all desire our records of quantity to be absolutely correct.

The primary consideration in accurate weights is, of course, the accuracy of the scales. The subject of this article is the importance of Hopper Telltale Systems for Accurate Weighing. These systems, as you all know, are used in the larger terminal grain elevators and are a means of communication between the weighmasters stationed at the scales on one of the upper floors and the elevator men and supervising weighmasters stationed at the cars and on the unloading floor.

Most Grain Weighed on Hopper Scales

WHEN grain is weighed on a track scale the weighmaster's interest does not extend beyond the car and the scale, unless, of course, he happens also to be Registrar or Custodian of the elevator. But nowadays the track scale is not used extensively for grain weighing on account of its inadaptability for weighing outbound shipments. A large percentage of the grain now received and shipped at terminal elevators is weighed in car capacity hopper scales situated on one of the upper floors of the work house, and it necessarily follows that there must be a "fool-proof" means of communication between the scale room and the ground floor. This applies particularly to large terminal elevators where large quantities of grain are handled and speed is one of the primary considerations.

> You have to go fast and you have to be right when receiving or shipping large quantities of grain. That's why a fool-proof, speedy system of signals between the scale room and the ground floor is necessary in the terminal elevators. Mr. Ladd, chief weighmaster, Milwaukee market, explains the value and use of the Hopper Telltale Signal System—colored lights augmented by the house telephone —in this enlightening article.

A system of colored lights, augmented by the house telephone system, has come into almost universal use. These colored lights are situated at the unloading hoppers where the cars are being unloaded, on the track where the cars are loaded, on the working floor where the hopper levers are operated, and in the scale room.

Our Milwaukee requirements are that the lights at the unloading hoppers must be automatic; in other words they are not hand operated. A switch connection on the control lever of the hopper slide turns on a red light when the slide is open, and a green light when the slide is closed. The light shows in three places: above the unloading pit, on the working floor, and at the hopper scale, and are so arranged that the weighman can tell at a glance which hoppers on which tracks are open and which are closed. A card system has previously given the weighman all data regarding the cars placed at each unloading hopper. Where two or more receiving hoppers discharge into one receiving leg the lever system must, of course, be equipped with an interlocking device to prevent the opening of more than one hopper at a time.

After a car is finished and the grain elevated to the receiving garner the unloading hopper is closed and a green light is displayed, indicating to the weighman that the car is empty and the grain elevated to the garner. As an extra precaution our supervising floor man calls the weighmaster on the house 'phone and tells him that the grain is "ALL UP" and repeats the car number, to forestall any possible error in crediting the weight to the wrong car. When the grain has been discharged from the garner and the slide closed, the weighman throws a switch displaying a white light, indicating to the floor men that the garner is ready to receive the next car load. This light is hand operated from the scale floor.

Same System Used for Outgoing Grain

A SIMILAR system is used on the out-going shipments. A green light, hand-operated from the loading track, indicates that the spout is in the car and ready for the flow of grain. When the weighman is ready to release the grain from the scale he turns on a red light; this light remains burning until the grain is all discharged from the scale; the weighman then switches on a white light indicating that the car is finished.

One of our larger Milwaukee elevators is equipped with a Richardson Car Dumper. This dumper is a short distance from the elevator and a similar system of hand-operated lights, in addition to a telephone line, has given very satisfactory results. The grain travels a belt conveyor from the dumper to the receiving pits in the work house. Red and green lights indicate whether the dumper hopper is open or closed, and a similar combination of lights signal the dumper operator when the tripper is in position at the proper receiving leg.

It is the duty of the supervising weighmaster to see that these signal systems and house phones are in first class working condition at all times. You are all familiar with the other duties of the supervising weighmasters, such as the periodic inspection and testing of scales, and the inspection of all other equipment used in handling grain to and from the scales.

Close cooperation and harmony between the Elevator Superintendents, including their employes, and the supervising weighmasters is a big factor in the elimination of errors in weighing, and consequent trouble for all concerned. I am glad to say that this cooperation exists in our market.

We in Milwaukee are doing everything in our power to safeguard the accuracy of the weighing at all of our industries, and any new innovations or new methods tending to further reduce the possibility of error in weights will readily be adopted.

Jim Shaw Ill Again

GAVIN JAMES SHAW, superintendent of the C.P.R. Elevator in Port McNicoll until his retirement the first of this year, is confined to his home with a serious ailment. We know that it will help "Jim" a great deal to get a word of news and good cheer from the boys in different parts of the country — so how about writing him, eh, fellas?

A copy of the Daily Sun-Times of Owen Sound—Newt Heels' "Capitol"—was forwarded to us recently and to our gratification we found therein a five-column head biography of our good friend, "Jim," with pictures of him and some of the elevators he constructed.

Jim went to work at the age of 12 and labored in his father's saw mill packing shingles, running the steam engine and driving the oxen. At 17 he went off on his own and worked in a brick-yard, lumbering camp, and finally with Head & Boston, contractors. It was with this last named firm that he got his first taste of elevator construction and he has been with the houses ever since. He was foreman for J. H. Tromanhauser in 1903 and became vice-president when a company was formed in 1910.

In 1919 he became superintendent of the 5,000,000 bushel C.P.R. elevator in Port McNicoll and up to this year worked there,—known as one of the most efficient operators in Canada.

Yes, Jim, you have had a full, strenuous and successful life and although you're retired, you're still in the business and the dean of them all at that to all who know you. Here's a good wish from everybody for you,—for your health and years of well-earned rest and contentment to come.

Harry Olson Sells Out

"Undoubtedly the happiest years of my life," writes Harry B. Olson, "have been those spent in doing business with the grain trade, and I hope that the many friendships it has been my pleasure to make during this period will continue for many years to come.

"It is therefore with a feeling of regret that I inform you my business relationship with the grain trade is drawing to a close. I have disposed of my interest in moisture testing equipment to the Seed Trade Reporting Bureau. I feel that my friendships are deep enough to continue personally even though I am no longer in direct business contact with my friends.

"As you probably know, our merchandising department was a subsidiary of the National Seedsman Publications. The above mentioned decision was brought about by our exchanging our merchandising department for the publications of the Seed Trade Reporting Bureau, and hereafter my efforts will be confined entirely to the publishing business.

"With kindest personal regards, and all good wishes to all, I remain

"Sincerely yours,

"Harry B. Olson.

Minneapolis Sets Record

The Minneapolis Chapter set a new high record at their annual "Ladies' Night" dinner dance last month. Some 128 turned out for the big event and there were enough door prizes so that each charming beauty — in other words, all the ladies—received one.

Inclement weather cut down the attendance at Chicago's annual Ladies' Night to a trifle under that of a year ago, but what was lacking in attendance was assuredly made up for in the splendid program arranged.

The Chicago Chapter took an extensive tour through the Westinghouse Electric & Mfg. Co.'s "service" plant on Feb. 4, and considered the trip one of the highlights of this year's programs so far.

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WEEVIL-CIDE has been the leading grain fumigant in the elevators and mills of the United States and Canada during the past decade. In many terminal markets this leadership is unchallenged!

WEEVIL-CIDE has attained this dominant position because no competitive product fulfills in such measure the following requirements:

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- No Fire Hazard
- Economical

A majority of the large users have found Weevil-Cide
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